

DETAILED ACTION

Claim Rejections - 35 USC § 112

Claims 20-31 and 40-43 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 20, 30, and 40-42 recite a "DIN EN 10027 part 1 material" and then a list of materials that appear to be possibly a foreign standard which would not have a clear and definite definition for a specific material in the US and therefore are indefinite where the scope of the claim cannot be clearly determined when it is not known if the standard will change through time and the actual materials being claimed would have no meaning which would make reproduction impossible. The claimed subject matter should either be set forth in a standard that is more meaningful and definite, or else replaced by generic terminology for the materials by percentages of each of the components making up each material. Since the terminology of the claims is indefinite, the examiner will consider these limitations as a general material meeting standards for sake of speedy prosecution and making an art rejection upon the pipe structure being claimed, since it is believed the materials are not new to the industry.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 20-27, 30, 31, and 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Torigoe (JP 2000234887). The reference to Torigoe discloses the recited pipe comprising a single piece or multipiece tube having at least two bends 1, where straight portions 2 can be provided or just the bend formed as 1 can be considered to meet the claim structure where two 90 degree bends make up a 180 degree bend and two portions of 90 degree bends exist on each end of a straight portion, the tube is made of a metal material, opposite ends of the tube includes subsections 2 between the ends and such are provided in more than one plane and spaced apart. The reference to Torigoe discloses all of the recited structure with the exception of specific tube bend ratio's, diameters, lengths, wall thickness, and type of metal material, however such are considered merely choices of mechanical expedients where one skilled in the art would only require routine experimentation to arrive at optimum values for all the dimensions and materials used to meet the needs of the user as such is merely a choice of mechanical expedients. It would have been obvious to modify the pipe in Torigoe by varying the dimensions and materials of the pipe as such only requires routine skill in the art to use routine experimentation to arrive at optimum values as such is merely a choice of mechanical expedients, where one skilled in the art would be motivated to seek the optimum values for the needs of the user. The recitation of centrifugally casting the tube is a method step only in an article claim and holds no patentable weight on the final product of a tube formed of a shape and a specific material, unless it can be proven that the final product is materially different

from a similar product made by a different method. Although it should be noted that there are prior art references cited below which teach centrifugally molded tubes.

Claims 20-27, 30, 31, and 40-43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Naoi. The reference to Naoi discloses the recited pipe comprising a single piece as seen in figure 1(a) or multipiece tube as seen in figure 2(a) having at least two bends 2, where straight portions 3 can be provided, the tube is made of a metal material, opposite ends of the tube includes subsections 3 between the ends and such are provided in more than one plane and spaced apart where figure 2(b) shows a constant diameter and thickness tube. The reference to Naoi discloses all of the recited structure with the exception of specific tube bend ratio's, diameters, lengths, wall thickness, and type of metal material, however such are considered merely choices of mechanical expedients where one skilled in the art would only require routine experimentation to arrive at optimum values for all the dimensions and materials used to meet the needs of the user as such is merely a choice of mechanical expedients. It would have been obvious to modify the pipe in Naoi by varying the dimensions and materials of the pipe as such only requires routine skill in the art to use routine experimentation to arrive at optimum values as such is merely a choice of mechanical expedients, where one skilled in the art would be motivated to seek the optimum values for the needs of the user. The recitation of centrifugally casting the tube is a method step only in an article claim and holds no patentable weight on the final product of a tube formed of a shape and a specific material, unless it can be proven that the final product is materially different from a similar product made by a different method.

Although it should be noted that there are prior art references cited below which teach centrifugally molded tubes.

Claims 28 and 29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Torigoe (JP 2000234887) or Naoi as applied to claims 20-27, 30, 31, and 40-43 above, and further in view of Mougin. The references to Torigoe and Naoi disclose all of the recited structure with the exception of forming the inside with a specific roughness. The reference to Mougin discloses that it is old and well known in the art to provide the interior of pipes with roughness of specific amounts where the choice of such is a choice for the user to make, and such improves the heat transfer properties of the pipe. It would have been obvious to one skilled in the art to modify the interior of the pipes in Torigoe and Naoi by providing a specific roughness as suggested by Mougin where such would improve the heat transfer properties of the pipe and where the amount of roughness is merely a choice of mechanical expedients requiring only routine experimentation to arrive at optimum values.

Response to Arguments

Applicant's arguments filed February 16, 2010 have been fully considered but they are not persuasive. With respect to the arguments directed at the 112 rejection even if one skilled in the art may be aware of the European standards does not mean that such are definite, where standards can change through the years, and such would be indefinite where an infringer would not know whether the standard they are being

held to is one of their current time period or when the patent was actually allowed, therefore such language is still considered indefinite where such does not have a definite scope which would remain the same throughout the years. With respect to the Torigoe reference, figure 5 shows a straight intermediate portion between bent portions where the bent portions inherently would have continuous change of longitudinal axis orientation as such is known of any curved pipe portion, and the centrifugally cast language is covered above and holds no patentable weight in an article claim. With respect to Naoi, figure 1a has portions that are 90 degrees on either end of a straight portion that then are part of another section of 90 degree ends connected to the other 90 degree end to form a 180 degree end. The language of the claim is not written to exclude further structure beyond the 90 degree part of the 180 bend.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The references to Jones, Ando, Striegler, Kryanin, Khandros, Kollberg, Bente, and Naito disclosing state of the art pipes and rotary molded pipe methods disclosing state of the art tubes and pipes.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James F. Hook whose telephone number is (571) 272-4903. The examiner can normally be reached on Monday to Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Shaver can be reached on (571) 272-4720. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/James F. Hook/
Primary Examiner, Art Unit 3754

JFH